

July, 2005

## The Tick Times

Richard J. Codey  
Acting Governor



Fred M. Jacobs, MD, JD  
Commissioner

**NJ Communi-CABLE**

It's that time of year again. Time for swimming, hiking, biking and TICKS!!!! Ticks can be a real nuisance and can carry several different tick-borne diseases, but with a little bit of information and some tips on prevention, you can reduce your risk of getting any of the tick-borne diseases.

Three ticks, called vectors, are responsible for most of the tick-borne disease transmission in New Jersey: black-legged tick (deer tick), lone star tick, and the American dog tick. Ticks pass through four stages of development: egg, larva, nymph and adult. In the larval, nymphal, and adult stages, these ticks must locate and obtain a blood meal from a host animal to complete its life cycle. The host animal differs by disease but includes the white-footed mouse, meadow vole, birds and white-tailed deer. Humans are considered incidental hosts.

### Tick Activity/Habitat

The peak activity of the adult deer tick is between mid-October and early December, becoming inactive when the temperature falls, and resuming activity from mid-March through April. The peak activity of nymphal deer ticks is late May to early June, but these ticks can be observed from April through July. Larval deer ticks are most abundant in late July and August.

Lone star ticks have a similar peak activity but do not have an activity period in the fall. Adult lone star ticks are abundant during April and May. Nymphal lone star ticks are active in May and July, and larvae are most abundant in August and September.

American dog tick adults appear in May and again in September, while larvae and nymphs are most prevalent in May-June and July-August, respectively.

Unfavorable habitats for deer ticks include open sunny areas such as lawns, athletic fields and other recreational areas, croplands and wetlands. In wooded residential areas, deer ticks can be found in wooded areas and along woodland edges. However, landscaped areas with dense ground cover plants also provide a suitable habitat for deer ticks. Dense shrub layer, leaf litter, and other plant debris play an important role in the survival of larvae and nymphs by maintaining conditions of high humidity. Lawns immediately adjacent to woodland edge may support low numbers of ticks. Lone star ticks are most commonly found in forested areas, while American dog ticks are associated with field habitats. All three species can be encountered in the woodland edge.

### Transmission

Ticks require an extended period of time to insert their mouthparts and begin feeding.

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### **NJDHSS Communicable**

#### **Disease Service**

- Eddy A. Bresnitz, MD, MS, Deputy Commissioner/ State Epidemiologist
- Janet DeGraaf, MPA, Director, Communicable Disease Service
- Christina Tan, MD, Deputy State Epidemiologist/ Medical Director, Communicable Disease Service
- Suzanne Miro, MPH, CHES, Editor, Health Educator, Communicable Disease Service

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Generally, black-legged ticks must be attached for 24-36 hours before transmission of the Lyme disease-causing spirochete occurs. In New Jersey, 40-45% of adult black-legged ticks are infected with Lyme disease spirochetes, while nymphs are infected at about one-half that rate. Larvae are rarely infected. The lone star tick and the American dog tick also require an extended period of attachment for transmission to occur, but research on this and infection rates are not well defined.

## Tick-borne Diseases

**Lyme disease** is a multi-systemic, inflammatory bacterial disease. Within 1 to 2 weeks after being infected, a "bull's-eye" rash can develop at the tick bite site accompanied by fever, headache, and muscle or joint pain. Some people may have Lyme disease and not have any early symptoms. However, others can have a fever and other "flu-like" symptoms without a rash.

**Rocky Mountain Spotted Fever** is a rickettsial disease with sudden onset of fever, which may persist for 2-3 weeks in untreated patients, malaise, muscle pain, severe headache, chills and conjunctivitis. A spotted rash may appear on the palms and soles in about 50% of infected patients. The incubation period is 3-14 days.

**Human Granulocytic Ehrlichiosis** is a rickettsial disease characterized by fever, chills, malaise, headache, muscle aches/pain, nausea, vomiting and cough. The incubation period is 1-3 weeks.

**Human Monocytic Ehrlichiosis** is a rickettsial disease characterized by fever, headache, muscle aches/pain, anorexia, diarrhea, abdominal pain and confusion. The incubation period is 1-3 weeks.

**Babesiosis** is a protozoan disease characterized by fever, chills, headache, muscle pain, fatigue and anemia, which can persist for several days to months. The incubation period is variable ranging from 1 week to 1 year.

Tick-borne diseases are treated using antibiotics. Babesiosis also requires treatment with an anti-parasitic agent.

## Prevention

You can reduce your risk by taking the following precautions to avoid tick bites, or to safely remove a tick if you are bitten:

- Avoid wooded areas, with dense shrubs and leaf litter, where ticks like to hide.
- Make your yard less attractive to ticks: mow lawns and prune trees.
- Wear lighted colored clothing to make ticks easier to see. Tuck pant legs into socks and shirt into pants. Ticks will be forced to crawl on the outside of clothing, where they can be more easily seen and removed.
- Personal insect repellents containing DEET can be used on skin or clothing. Repellents containing permethrin should be used on clothing only. Read and follow label directions carefully.
- Examine yourself frequently for ticks while in tick-infested areas. Perform a full-body exam on yourself, children, and pets after leaving possible tick habitats.
- Remove attached ticks promptly.
  - Use fine-pointed tweezers.
  - Grasp the tick's mouthparts close to the skin.
  - Apply steady outward pressure.
  - Do not use petroleum jelly, noxious chemicals, or hot objects to remove ticks. Improper removal can increase the chances of infection.

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- In most circumstances, treating persons who only have a tick bite is not recommended. Occasionally, people who are bitten by a tick may be given a single dose of doxycycline as a preventive measure if they live in a high endemic area for Lyme disease. Individuals who are bitten by a tick should remove the tick promptly and may wish to consult their health care provider. Persons should promptly seek medical attention if they develop any signs and symptoms of any tick-borne disease.
- Ticks that have been removed from a person can be tested by a laboratory to determine if the tick has been infected with any of the tick-borne diseases. However, this method can provide false information since not all bites result in a blood meal and therefore transmission of the tick-borne disease agent. Only those bites which result in lengthy attachments and engorgements should be considered for testing.

Several methods can be employed to reduce the amount of ticks on your property. Additional information regarding this topic can be found at

[http://www.shore.co.monmouth.nj.us/06270\\_mcmec/assess.pdf](http://www.shore.co.monmouth.nj.us/06270_mcmec/assess.pdf)

### Additional Resources

**NJDHSS**

<http://nj.gov/health/cd/index.html>

**CDC**

<http://www.cdc.gov/az.do>

**Governor's Lyme Disease Advisory Council**

<http://www.state.nj.us/health/cd/gldac.htm>

### **NJ Shines at CSTE in New Mexico**

Congratulations to **Eddy A. Bresnitz, MD, MS**, State Epidemiologist and Deputy Commissioner for his recent election to the Council of State and Territorial Epidemiologists (CSTE) as Secretary-Treasurer, during the June 2005 annual conference in Albuquerque, New Mexico. As a member of CSTE, he has also served as Chair of its Bioterrorism Committee and has acted as CSTE's representative on several national committees.

CSTE, in conjunction with the Centers for Disease Control and Prevention, works to improve the public's health by supporting the efforts of epidemiologists working at the state and local level by promoting the effective use of epidemiologic data to guide public health practice and improve health. Since 1951, CSTE has grown into a professional association of public health professionals with over 850 epidemiologists representing all 50 states, 8 territories, and Puerto Rico.

### **NJ Presents at National Conferences**

**Corey Robertson, MD, MPH**, New Jersey Department of Health and Senior Services, presented "Developing Video Education on MRSA for Correctional Facility Inmates— A Collaboration of Public Health and Correctional Health Resources, NJ, 2004" at the June 2005 Annual Conference on Antimicrobial Resistance, sponsored by the National foundation for Infectious Disease, in Bethesda, Maryland.

Presented at CSTE's Annual Conference:

**Meghan Jones, MSPH**, Camden County Dept. of Health and Human Services, "Outbreak of Serogroup C Meningococcal Disease Among Students Attending a Parochial School."

**Meileen Acosta, MPH**, Hunterdon County Department of Health, "*E. coli* Outbreak Traced to a Single Franchise Restaurant in Hunterdon County, New Jersey."

## Smallpox Spot

Congratulations to staff from the New Jersey Department of Health and Senior Services (NJDHSS) Communicable Disease Service on the recent publication of an article in the May-June 2005 edition of the *Journal of Public Health Management and Practice*.

The article entitled, “New Jersey’s Smallpox Vaccination Clinic Experiences, 2003” highlighted the planning and implementation of voluntary smallpox vaccination clinics. Evaluations were compiled from individuals who received the smallpox vaccine (vaccinees) and clinic planners about their clinic experience. Vaccinees felt they were well educated and informed about the disease, the vaccine, risks and liability issues.

Clinic planners found the recruiting process hectic due to a tight timeline but felt that the collaboration and coordination between state and local health departments and hospitals were positive. The article identified vaccination as one component of preparedness and recommended that future initiatives incorporate multi-agency collaboration in addition to developing public health infrastructure.

Reference: Taylor, L., Tan, C., Liu, S., Miro, S., Genese, C., Bresnitz, E. (2005). New Jersey’s Smallpox Vaccination Clinic Experiences, 2003. *Journal of Public Health Management and Practice*, (11) 3, 216-221.



**UPDATE:** In the next edition of the *NJ Communi-CABLE*, the “Smallpox Spot” will be called the “BT Buzzzz.” NJDHSS Communicable Disease Service will now report on a range of bioterrorism and public health preparedness news, trainings, updates and other information.

## Spring 2005 Infectious Disease Summit

The Spring 2005 Infectious Disease Summits were day-long learning symposia that featured an array of communicable disease topics. Recently, summits were held May 3 in Cherry Hill and May 6 in Morristown, and approximately 600 public health care professionals attended. The program included speakers from NJDHSS and local health departments. Continuing education credits and contact hours were offered to public health professionals, certified health education specialists, registered nurses, school nurses, emergency medical services professionals, licensed nursing home administrators and certified assisted living administrators.

The recent spring summits highlighted state and local surveillance, education, planning and response efforts.

- “Infection Control Standards for Ambulatory and Acute Care Settings” by Anthony Monaco, MA, REHS, HO
- “Integrating Hepatitis Prevention into HIV Prevention” by Sandy Van Sant, APN, MPH, HO

- “New Jersey Communicable Disease Trends: 2004-2005” by Christina Tan, MD
- “Camden County Meningitis Outbreak and Public Health Response” by Meghan Jones, MPH and Nancy Gerrity, MSN
- “The 2004 Influenza Vaccine Shortage: State and Local Perspectives” by Katherine Wytovich and Sharen Clugston, MSN
- “*Legionella pneumophila* Outbreak Update” by Carol Genese, MBA
- “Introducing the NEW Communicable Disease Reporting and Surveillance System” by Marlene Bednarczyk, MSQSM and Patricia Jordan, BS

Limited copies of participant packets are available. If you would like to receive a participant packet from the Spring 2005 Infectious Disease Summit, please call (609) 588-7500. Individuals who attended the summits in the past will receive an e-mail notice from the New Jersey Learning Management Network with details of future summits.



# CDRS Corner

## New Jersey Goes to PHIN

In February, the Centers for Disease Control and Prevention (CDC) Region II Team paid a site visit to the New Jersey Department of Health and Senior Services (NJDHSS) and reviewed the existing Communicable Disease Reporting System (CDRS) as well as the Communicable Disease Reporting and Surveillance System (CDRSS), presently under development and anticipated to be deployed this fall. In the site visit report, the CDC team identified New Jersey's program as "a '**model site**' [that] could be used for others to follow" and encouraged NJDHSS to "take advantage of opportunities for technical staff to present at relevant meetings and conferences." Subsequently, NJDHSS was invited to present at the 2005 Public Health Information Network (PHIN) Stakeholder's Conference May 9-13, 2005 in Atlanta, Georgia. The CDC team wanted this national audience to learn about NJ's experience with CDRS and accepted both NJDHSS abstract submissions from a pool of 161 abstract submissions nationwide.

According to the CDC website (<http://www.cdc.gov/phn/overview.html>):

The Public Health Information Network (PHIN) is CDC's vision for advancing fully capable and interoperable information systems in the many organizations that participate in public health. PHIN is a national initiative to implement a multi-organizational business and technical architecture for public health information systems.

*"Training Public Health and Healthcare Partners to use Electronic Reportable Disease Systems: New Jersey's Experience, 2001 – Present"* was the first of three presentations in a multi-presenter session entitled *"Business Process Changes and Training."* The presentation highlighted NJDHSS's experience during the statewide implementation of the CDRS and the training of its end users. The presentation also showcased how local health departments, hospitals and laboratories became more involved in CDRS reporting. In 2001, 100% of the reportable disease data had been entered at the NJDHSS. By 2004, only 15% was entered at the NJDHSS, 35% was entered via a direct line feed from LabCorp and

50% was entered directly by county and local health departments, hospitals and labs. In the same three-year period, NJ increased its reporting level from 14,000 to 30,000 cases. Not only were more cases entered, but progressively more information was detailed in the case reports. As a result, NJDHSS staff, freed from the data entry function, were able to focus on surveillance and investigative work.

The shift in focus from data entry to surveillance and investigative work at the NJDHSS was demonstrated in the early detection of a tri-state outbreak of *Salmonella berta*, presented in a poster entitled *"Early Detection of a Multistate Outbreak of Salmonella berta Through Use of a PHIN-Compliant Electronic Reporting System and Molecular Subtyping, New Jersey, 2004,"* by Michelle Malavet and Kelly Miller. CDRS was the focus of attendees' questions, as they read about NJDHSS's and local health department timely detection of *S. berta*. NJDHSS typically receives less than 10 reports of *S. berta* each year. During the first few weeks of July 2004, **30** *S. berta* isolates were identified by the NJ Public Health and Environmental Laboratories. Through CDC's PulseNet, the NJ cases were found to match cases in New York and Pennsylvania. The early identification of the multi-state outbreak facilitated timely investigations to identify common source exposures and implement appropriate public health control measures.

Patricia Jordan, CDRS Trainer, also attended the conference. According to Ms. Jordan, "PHIN provided a great opportunity to meet colleagues from other states and other countries, as Spain and Canada were both represented. PHIN provided a steep learning curve for me. I was surprised that many of the other states have similar issues to New Jersey, including problems with geocoding, training and education."

## Contact Information

For CDRS help or information, call Marlene Bednarczyk or Patty Jordan at 609-588-7500 or email them at:

[Marlene.bednarczyk@doh.state.nj.us](mailto:Marlene.bednarczyk@doh.state.nj.us)

[Patricia.jordan@doh.state.nj.us](mailto:Patricia.jordan@doh.state.nj.us)

For information regarding the PHIN presentation, contact Ms. Bednarczyk.

# **The 2005 NJ Antimicrobial Resistance Conference**

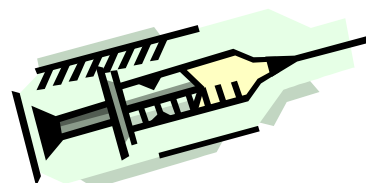


**Save the date...  
October 31, 2005**

## **New Vaccines for Children Ordering Process**

The contract with Automated Health Systems to provide vaccine order processing on behalf of the Vaccine Preventable Disease Program for over 1,000 enrolled providers in the New Jersey Vaccines for Children Program (VFC) ended on April 30, 2005. As a result of a Centers for Disease Control and Prevention (CDC) directive, the VFC Program was required to take responsibility for this service beginning May 1, 2005. After several months of preparation, planning and staff training, the vaccine ordering process was successfully brought in-house. It will provide a significant cost savings to the program, improve vaccine accountability, improve overall program efficiency, and identify and address customer needs. Staff were trained to take and process vaccine order requests that come into the VFC Program through fax, phone, and email.

One of the first changes that enrolled providers will recognize is the on-line re-enrollment process utilizing the New Jersey Immunization Information System, as well as the ability to access new forms, document VFC eligibility, and download vaccine order forms on-line. A provider seeking to enroll in the VFC Program can locate the necessary documents at <http://njiis.nj.gov>. VFC vaccine orders may be placed by calling 1-800-589-7516 or faxing the new vaccine order form to 609-588-7575.



## Communicable Disease Service Mission Statement

Our mission is to prevent communicable disease among all citizens of New Jersey, and to promote the knowledge and use of health lifestyles to maximize the health and well-being of New Jerseyans.

We will accomplish our mission through our leadership, collaborative partnerships, and advocacy for communicable disease surveillance, research, education, treatment, prevention and control.

NJ Department of Health & Senior Services  
PO Box 369  
Trenton, NJ 08625-0369  
Phone: (609) 588-7500

### The NJDHSS Communicable Disease Service Includes:

- Infectious & Zoonotic Disease Program (IZDP)
- Vaccine Preventable Disease Program (VPDP)
- Sexually Transmitted Disease Program (STDP)
- Tuberculosis Program (TBP)

**Past editions of the NJ Communi-CABLE are available on the Communicable Disease Service website:**

**<http://www.state.nj.us/health/cd/index.html>**

**Welcome to new NJDHSS Communicable Disease Service Staff!!**

**Leslie Hausman—Tuberculosis  
Program, Nurse**

